Saskatchewan
Highways and
Transportation

1999 Ferry Traffic

Annual Report

Operations Services
Southern Region

103-00550/

EXECUTIVE SUMMARY

This report summarizes the traffic data collected at the 12 cable ferries and the single free swimming ferry operating in Saskatchewan during 1999. The report analyses the volume and classification of the traffic carried using the ferry system.

This year, for the first time the report includes the Wollaston Barge ferry.

The main findings were:

1. The Clarkboro ferry recorded a 28% increase in traffic volume in 1999. That is the highest traffic volume at Clarkboro in the last ten years. The large increase was likely due to the strong economy in Saskatoon, rapid population growth in the bedroom communities surrounding the city and more farmers commuting to off-farm jobs.

2. Three of the five Prince Albert area ferries recorded increased traffic volumes in 1999. Cecil ferry recorded a ten-year low volume in 1999. St Laurent ferry traffic increased 70% over 1998.

3. The Wollaston Barge ferry carried an extremely high percentage of heavy vehicles (38%) in 1999. Direct comparisons to the cable ferries are difficult because the Wollaston data isn't compatible with vehicle type data collected on the rest of the system.

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1.0 Introduction

This annual report summarizes and presents analysis of the traffic that used the provincial ferry system in 1999. Traffic data is presented for all of the 13 ferry sites that operated in the province in 1999. This is the first time data from the Wollaston Barge has been included.

This report examines the history of traffic volumes and the types of vehicles using each ferry. Examination of the distribution and composition of ferry traffic gives useful insights into the function of each ferry.

Your attention is drawn to the following points about the report:

- Differences in the data from ferry to ferry is as important as the data itself.
- The vehicle type data for some vehicles at many of the sites is too small a sample to support accurate conclusions.

2.0 Background

The department operated 12 cable ferries during 1999. The free swimming ferry on Wollaston lake was operated on behalf of the department by the Hatchet Lake Indian Band. Of those totals, eleven of the cable ferries operated on the North and South Saskatchewan rivers and one on Lake Diefenbaker.

Presently, ferry traffic data is collected by the ferry operators and forwarded to the Senior Traffic Engineer for entry into the department databases and compilation of this annual report. Traffic data for the Wollaston ferry is provided to the department by the Hatchet Lake Band as a condition of their operating agreement. This annual report documents the traffic that used the ferry system in 1999 and examines changes and trends in the traffic using the ferry system.

3.0 Operating Season

All of the ferries, except Riverhurst ferry and the Wollaston Barge ferry, operate 12 hours per day between the hours of 7:00 am and 7:00 pm. The Riverhurst ferry operates 24 hours per day. Ferries don't run at times because of mechanical failure, bad weather or poor river conditions. The table below summarizes the 1999 operational season and the total downtime at all the ferries in the system. Details of the downtime are shown in Appendix A.

Ferry	Season			Hours
	Opening	Closing	Length(days)	Out of Service
Clarkboro	April 20th	Nov 28th	223	0
Estuary	April 14th	Nov 25th	226	36
Hague	April 21st	Nov 28th	222	0
Lancer	April 13th	Nov 26th	228	24
Lemsford	April 15th	Nov 24th	224	0
Paynton	April 17th	Nov 06th	204	0
St. Laurent	April 19th	Nov 28th	224	0
Wingard	April 20th	Nov 18th	212	216
Cecil	April 27th	Nov 03rd	191	27
Fenton	April 29th	Nov 03rd	189	0
Weldon	April 27th	Nov 03rd	191	0
Riverhurst	April 23rd	Jan 4th, 2000	257	277

Table 1. 1999 Ferry Season Statistics

4.0 Traffic Volumes

The table below summarizes the 1999 monthly traffic at all the cable ferry sites.

Ferry Vehicles	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Year
Clarkboro	2001	6682	6944	7599	8546	7343	7880	5190			52185
Estuary	583	997	1265	1196	1838	1574	1408	932			9793
Hague	474	1690	1899	1918	1959	1799	1709	1397			12845
Lancer	543	775	831	1221	1332	1090	1067	745			7604
Lemsford	571	1399	1714	2178	1951	1468	1519	930			11730
Paynton	1380	4276	4559	3189	5783	4473	4620	528			28808
St Laurent	1054	3445	4616	5682	4340	3901	3664	2441			29143
Wingard	409	1693	2139	1345	2154	1972	1907	608			12227
Cecil	183	2062	1746	1116	2033	2126	1607	143			11016
Fenton	14	1751	1539	1578	1706	1538	1421	93			9640
Weldon	341	5455	5348	5273	4743	5039	3935	248			30382
Riverhurst	880	4835	5361	8934	7546	5329	4838	3175	1744	133	42775
Monthly Totals	**8433**	**35060**	**37961**	**41229**	**43931**	**37652**	**35575**	**16430**	**1744**	**133**	**258,148**

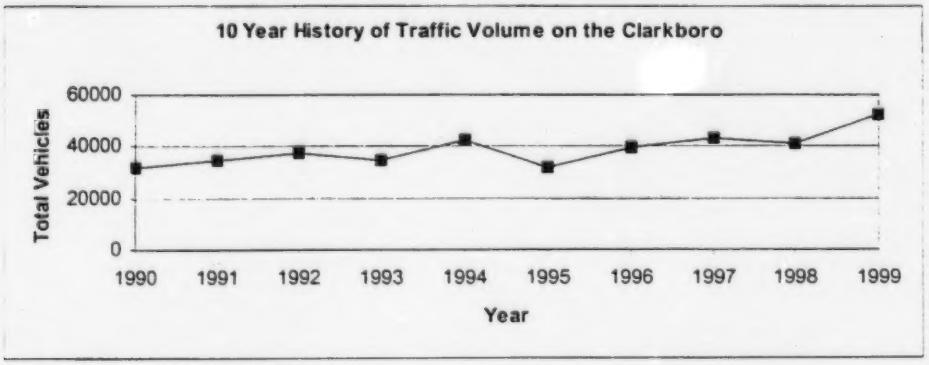
Table 2. Monthly ferry traffic volumes for the 1999 Season.

To facilitate systematic analysis the ferry traffic data is grouped by geographical location. This system results in 5 grouping: Saskatoon, Prince Albert, Swift Current, North Battleford and Wollaston.

4.1 Saskatoon Area

The Saskatoon area group contains two ferries, Clarkboro and Hague. The Clarkboro and Hague ferries carry annual traffic in the 37 000 and 13 000 vehicles per year range, respectively. In 1999, traffic at the Clarkboro ferry surged up to over 52,000 vehicles. This sharp increase likely results from the strong economic growth occurring in the city of Saskatoon. The Hague Ferry was stable at historical average traffic levels.

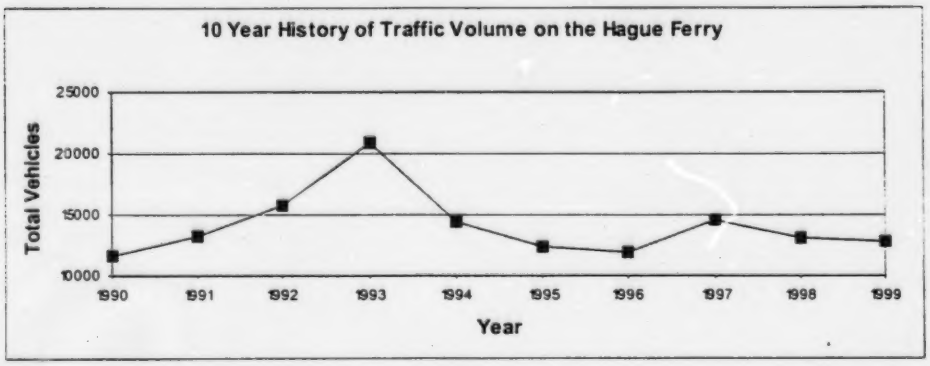
Chart 4.1A 10 year history of traffic on the Clarkboro ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
31817	34291	37284	34674	42448	31975	39338	42991	40839	52185

Traffic on the Clarkboro ferry increased sharply in 1999 likely due to the strong economy in Saskatoon and increased commuting of farmers to off-farm jobs

Chart 4.1B 10 year history of traffic on the Hague ferry



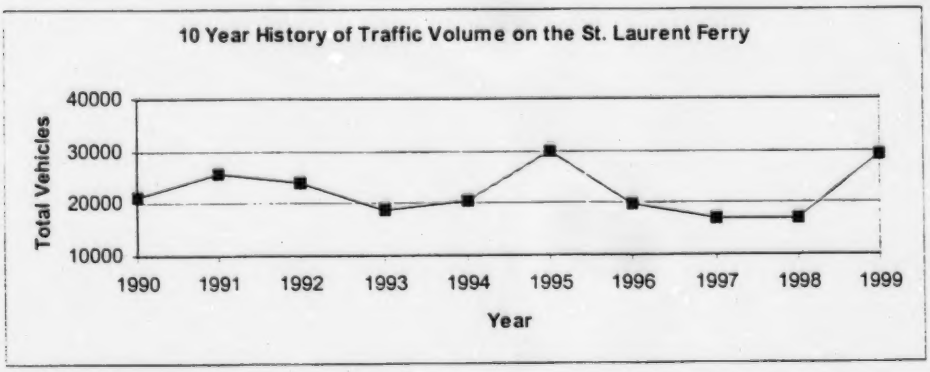
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
11578	13258	15700	20883	14442	12425	11961	14577	13122	12845

Traffic on the Hague Ferry was at historical levels of approximately 13,000 vehicles.

4.2 Prince Albert Area

The Prince Albert area group contains the following five ferries: Cecil, Fenton, St. Laurent, Weldon, and Wingard.

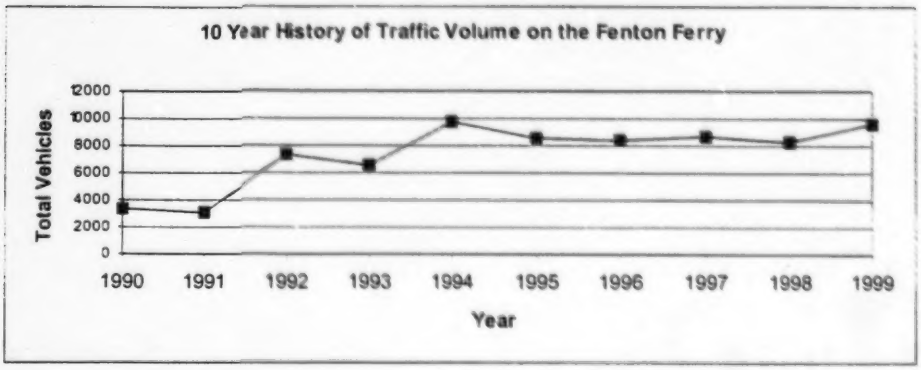
Chart 4.2A 10 year history of traffic on the St. Laurent ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
21250	25842	24017	18556	20421	30030	19875	16987	17133	29143

Traffic on the St. Laurent ferry in 1999 was up sharply from the last 3 years and near the peak of 1995.

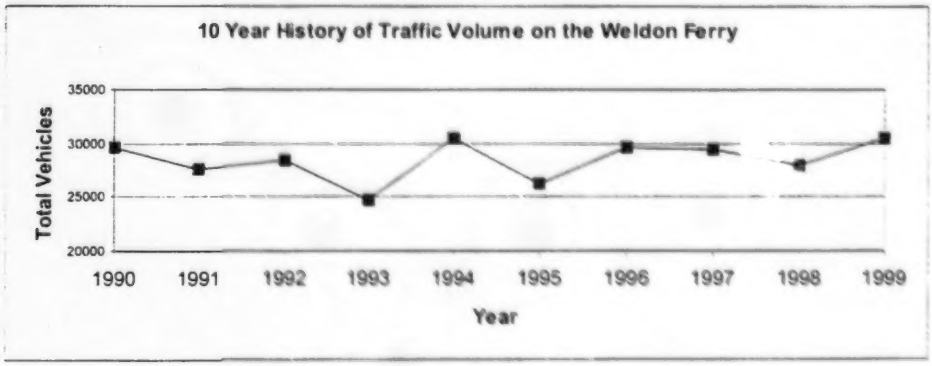
Chart 4.2B 10 year history of traffic on the Fenton ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
3319	3079	7394	6517	9730	8582	8366	8716	8324	9640

Traffic on the Fenton ferry in 1999 was a continuation of the pattern of last 6 years.

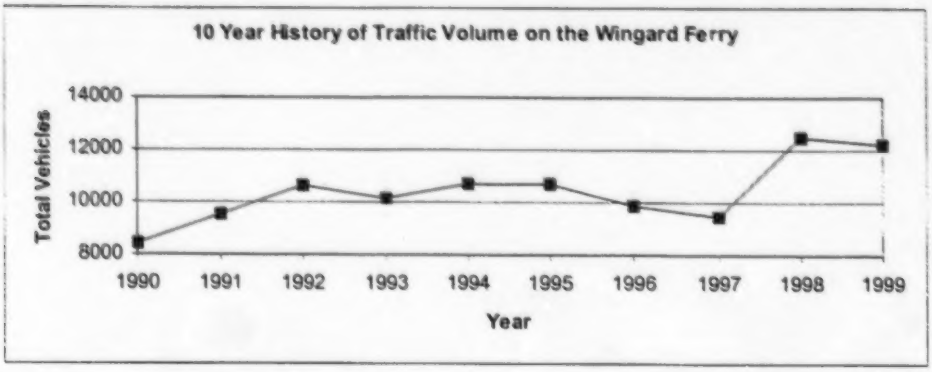
Chart 4.2C 10 year history of traffic on the Weldon ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
29681	27586	28460	24754	30465	26268	29657	29455	28003	30382

The Weldon ferry has had stable traffic volumes for the last 10 years at approximate 29 000 vehicles. The year to year fluctuation was about 2 000 per year.

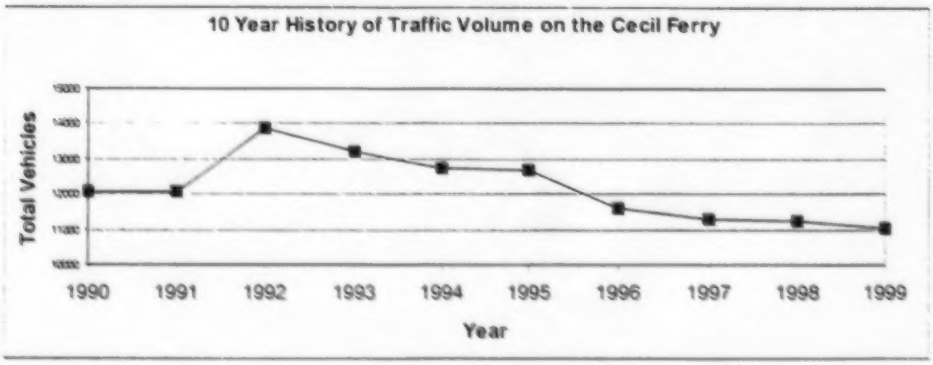
Chart 4.2D 10 year history of traffic on the Wingard ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
8395	9511	10628	10115	10719	10687	9878	9420	12467	12227

1999 Traffic on the Wingard ferry has a continuation of sharp increase in 1998.

Chart 4.2E 10 year history of traffic on the Cecil ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
12058	12054	13887	13210	12752	12678	11603	11303	11234	11016

Traffic on the Cecil ferry in 1999 continued the long term decline begun in 1992.

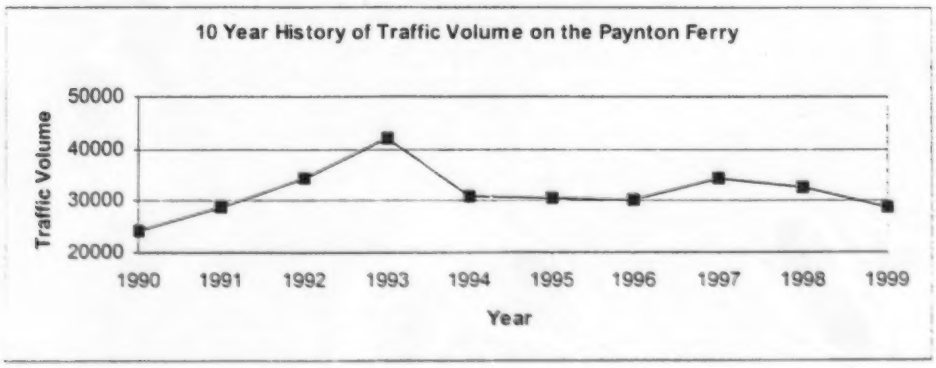
Overall, in 1999, traffic on the Prince Albert area ferries continued the trends visible over the last few years. The ferries that had been showing increases continued to increase and those that have been declining continued to decline. St. Laurent was the one exception, showing a sharp increase that returned volumes to the 1995 peak . In total,

the 1999 traffic volumes on the Prince Albert area ferries are up 20% from one year ago. See Table 2 for monthly traffic volumes of all the ferries in the province.

4.3 North Battleford Area

The North Battleford area has only the Paynton ferry. Paynton has carried an average of 31 000 over the past ten years (see chart below). The traffic volume at Paynton fell sharply to 24 000 vehicles in 1990 and then climbed to 42 000 by 1993. Traffic volumes between 1994 and 1996 were quite stable at 30 500 vehicles per year and then increased to 35 000 in 1997. 1999 continued gentle decline in traffic volumes that began in 1997. Traffic volumes in 1999 were well within the historical range of about 30 000 vehicles.

Chart 4.3A 10 year history of traffic on the Paynton ferry



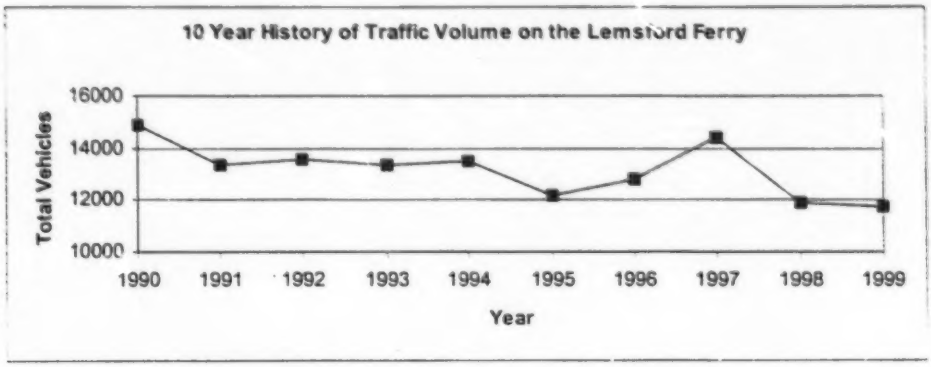
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
24066	28662	34293	42058	30686	30453	30172	34365	32453	28808

1999 Traffic volumes at Paynton continued the gentle decline visible since 1997. Traffic volumes are still in the historical range of about 30 000 vehicles.

4.4 Swift Current Area

The Swift Current area has four ferries: Estuary, Lancer, Lemsford, and Riverhurst.

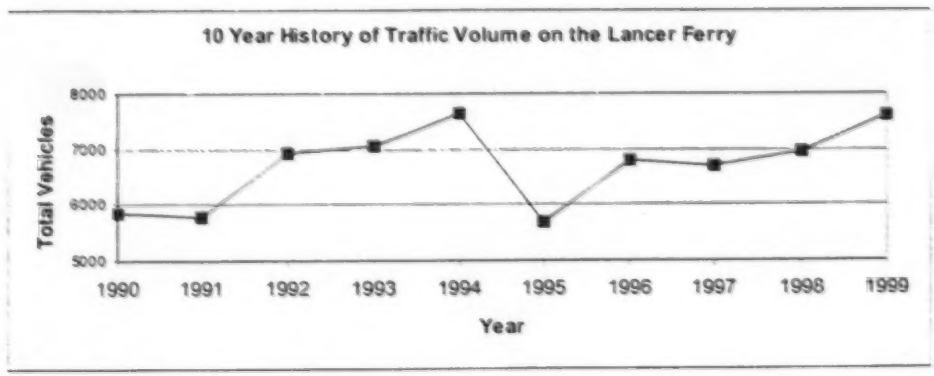
Chart 4.4A 10 year history of traffic on the Lemsford ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
14873	13368	13588	13381	13471	12170	12805	14393	11849	11730

Traffic on the Lemsford ferry in 1999 was the lowest seen in the last 10 years. Traffic at Lemsford has been quite variable between 12 000 and 15 000 vehicles over the last 10 years.

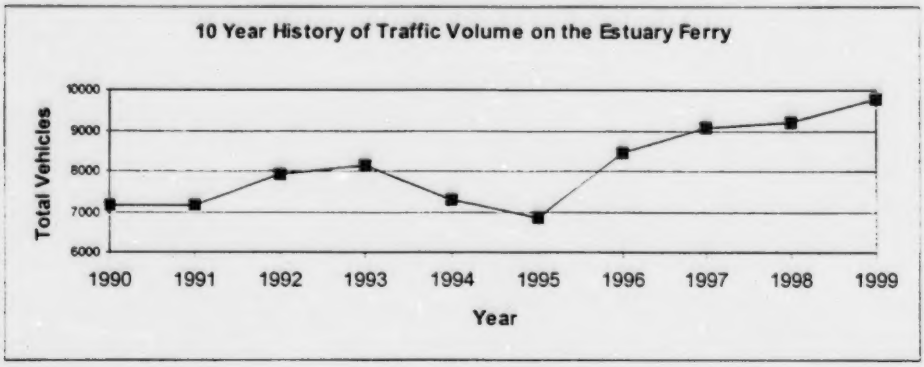
Chart 4.4B 10 year history of traffic on the Lancer ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
5862	5779	6928	7047	7649	5673	6789	6685	6967	7604

Traffic volumes on the Lancer ferry continued the gentle increase of about 200 vehicles per year.

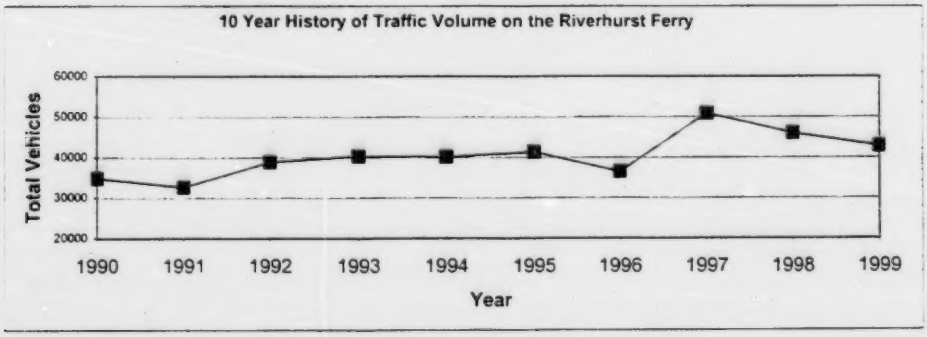
Chart 4.4C 10 year history of traffic on the Estuary ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
7175	7172	7900	8153	7278	6844	8463	9058	9217	9793

In 1999 traffic at the Estuary ferry continued the gentle increase that began in 1995.

Chart 4.4D 10 year history of traffic on the Riverhurst ferry



1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
34792	32613	38835	40242	40076	41291	36449	50766	45915	42775

Traffic volumes on the Riverhurst ferry returned to historical levels in 1999 after peaking in 1997.

The Riverhurst ferry is the largest and most sophisticated cable ferry in the province. It carries vehicles two kilometres across Lake Diefenbaker. The Riverhurst ferry has carried stable traffic volumes in the 40 000 vehicles per year range during the last ten years. The return to historical levels in 1999 likely resulted from failure of the seed

potato developments near Lucky Lake. See Table 2 for monthly traffic for all the provincial cable ferries.

5.0 Vehicle Classifications

Ferry operators record the traffic using the ferries by vehicle type. An analysis of the type of traffic using each ferry is done each year to determine whether usage of the ferries is changing.

The vehicle classification analysis is divided into the same geographical areas used for traffic volumes.

5.1 Saskatoon Area

The vehicle composition of the traffic using the Hague ferry changed in 1999. Hague has historically been characterized by a higher percentage of trucks and "other" vehicles than Clarkboro. In 1999 Hague carried 61/2 % trucks while Clarkboro carried a very similar 4% trucks. The only significant difference between these ferries in 1999 was in "other" vehicles. "other" vehicles are normally farm or construction equipment except near recreation areas where they are often combinations of passenger and recreational equipment like boat trailers or camp trailers.
Clarkboro continues to carry commuter traffic to Saskatoon. Hague carried a lower percentage of rural associated traffic in 1999 than in previous years. The vehicle type shift at Hague may be associated to the depressed state of the farm economy and an increase in the number of farmers commuting to jobs in Saskatoon.

Chart 5.1A Vehicle Types using the Hague ferry

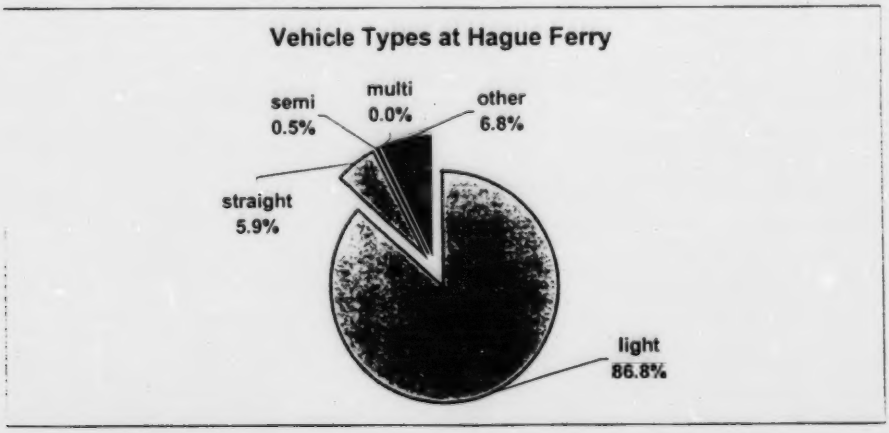
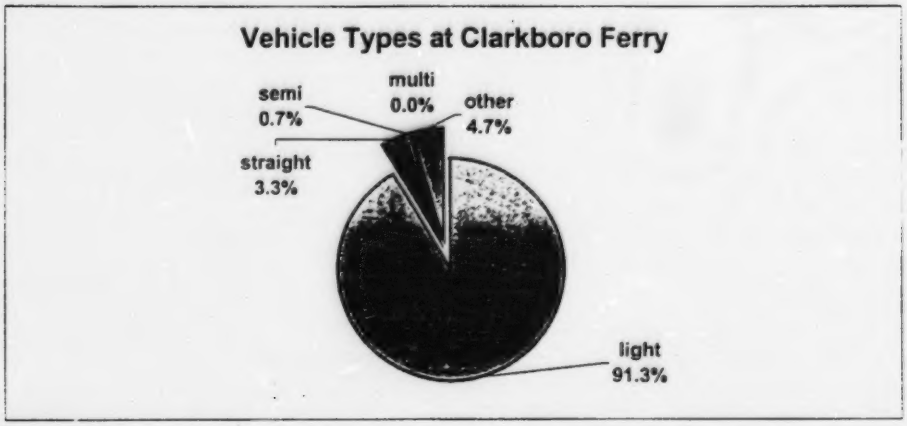


Chart 5.1B Vehicle Types using the Clarksboro ferry



5.2 *Prince Albert Area*

The Prince Albert area contains the Cecil, Fenton, Wingard, St. Laurent, and Weldon ferries. The vehicle mix at each ferry is displayed in the graphs below.

Cecil, Weldon, and Wingard carry a greater proportion of heavy trucks than the other two ferries. The high percentage of non-articulated trucks at Cecil indicate it is on a short distance haul route for agricultural products. Weldon and Wingard carry vehicle types that are indicative of a local route used by farmers on a day to day basis as they go about working their land. Both had moderate numbers of non-articulated trucks and a significant amount of vehicles normally interpreted as farm equipment. Traffic at the Fenton and St Laurent ferries was almost exclusively passenger vehicles.

Chart 5.2A Vehicle Types using the Cecil ferry

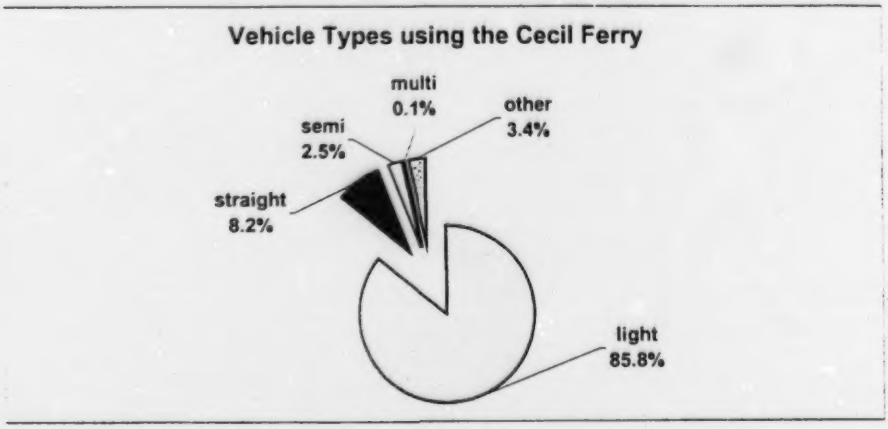


Chart 5.2B Vehicle Types using the Weldon ferry

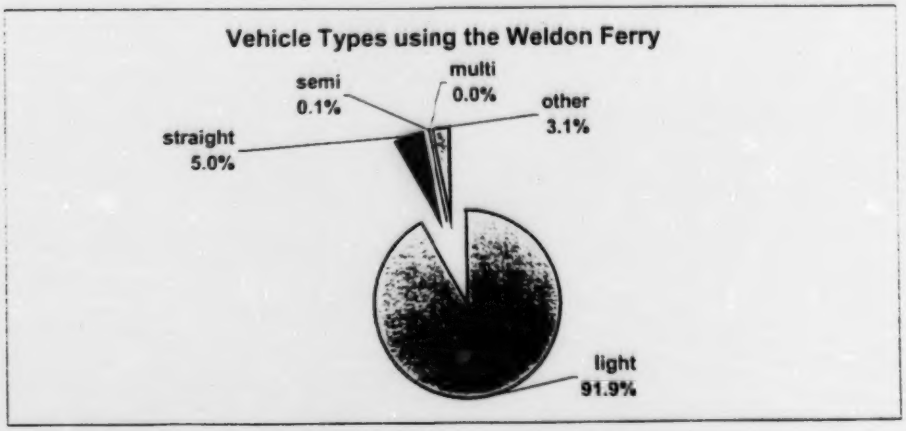


Chart 5.2C Vehicle Types using the Wingard ferry

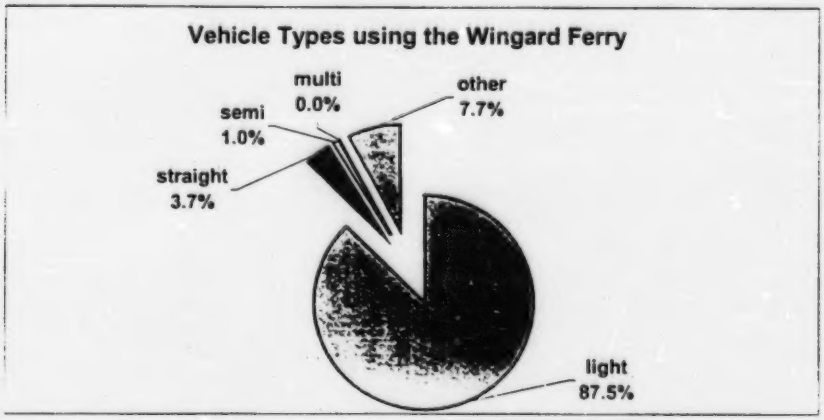


Chart 5.2D Vehicle Types using the Fenton ferry

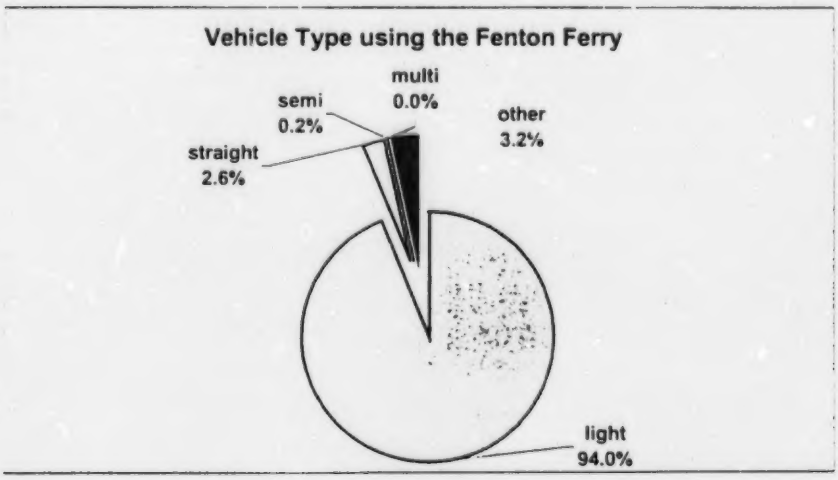
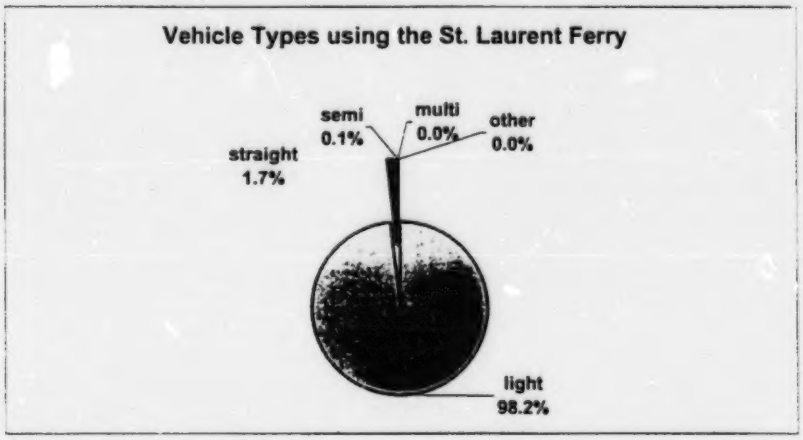


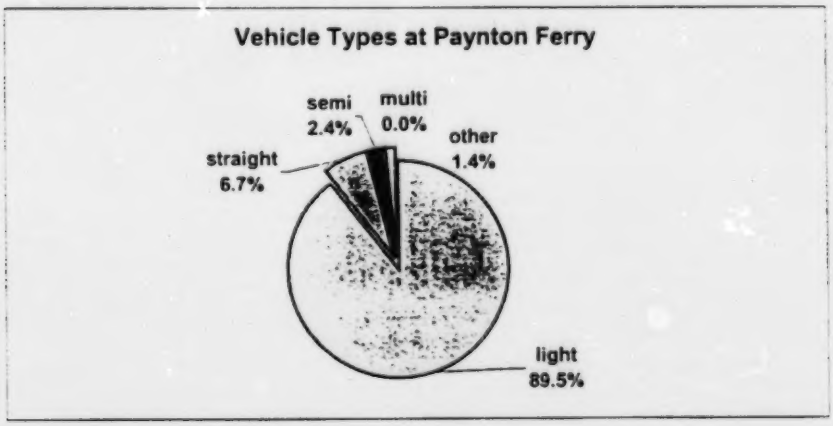
Chart 5.2E Vehicle Types using the St. Laurent ferry



5.3 North Battleford Area

The North Battleford area contains only the Paynton ferry. This ferry serves a predominately rural population as shown by the high percentage non-articulated trucks. Paynton also serves as a link to highway No.16 for freight haul as shown by the relatively high percentage of single trailer semis that used the ferry in 1999.

Chart 5.3A Vehicle Types using the Paynton ferry



5.4 Swift Current Area

The Swift Current area ferries all serve predominately rural populations. The Lemsford and Lancer ferries carry an almost identical vehicle mix. Both carry small percentages of non-articulated (farm) trucks and equipment as well as small numbers of commercial trucks (single trailer semis). The Estuary ferry is unique in this area in that it carries a fairly high percentage of farm trucks and an almost equal percentage of farm equipment. Estuary apparently connects cattle operations south of the river to large hay flats located along the north side of the river.

The Riverhurst ferry is the largest and most sophisticated cable ferry in the system. It is also the only cable ferry located on the provincial highway system. The vehicle mix clearly shows that Riverhurst is a link in the highway system and is a vital link in the agricultural area around the crossing. There was a significant drop in the number of freight haulers in 1999 compared to the previous two years. This change is no doubt related to the failure of the seed potato industry centered around Lucky Lake.

Chart 5.4A Vehicle Types using the Lancer ferry

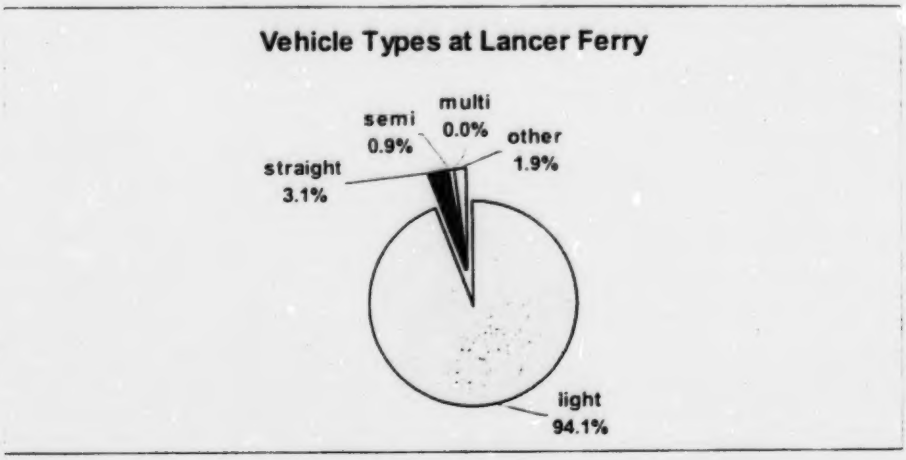


Chart 5.4B Vehicle Types using the Lemsford ferry

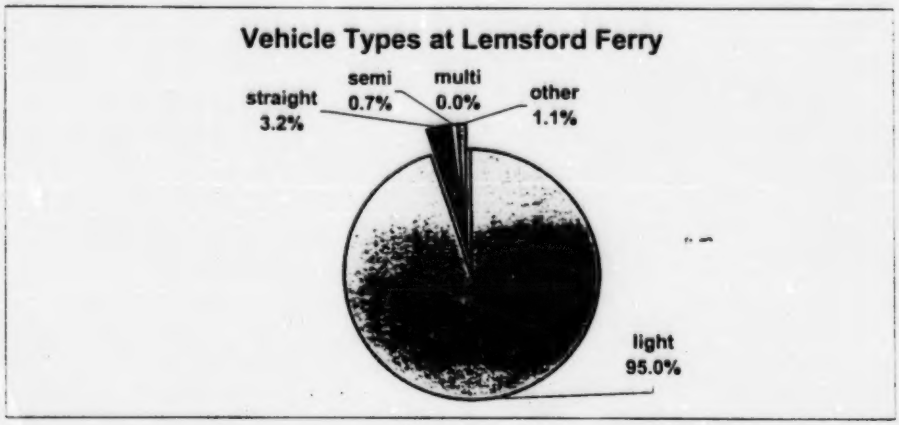


Chart 5.4C Vehicle Types using the Estuary ferry

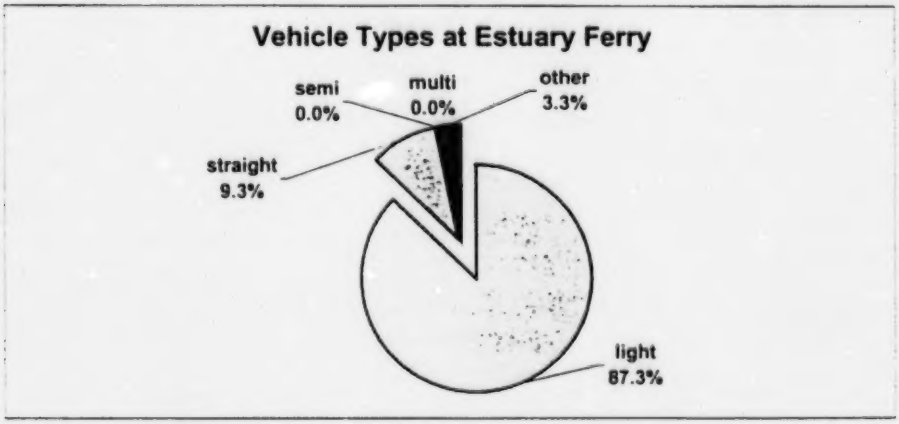
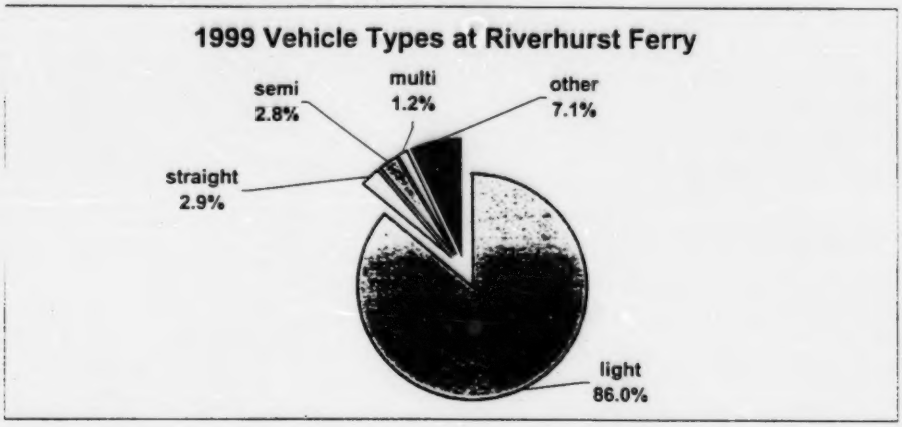


Chart 5.4D Vehicle Types using the Riverhurst ferry



6.0 Wollaston Barge Ferry

The Wollaston Barge Ferry connects the community of Wollaston Lake to Highway No. 905. This is the only free-swimming ferry operating in the province. The operational season at Wollaston is shorter than other ferries in the province because of the northern location. This ferry carries quite low traffic volumes compared to the southern ferries. The route across the lake is long and only one round trip is possible each operational day. A total of 559 vehicles used this ferry in 1999. The ferry opened on June 12, 1999 and closed on Oct 10, 1999. The ferry was out of service for a total of 4 days in 1999 because mechanical failure or bad weather.

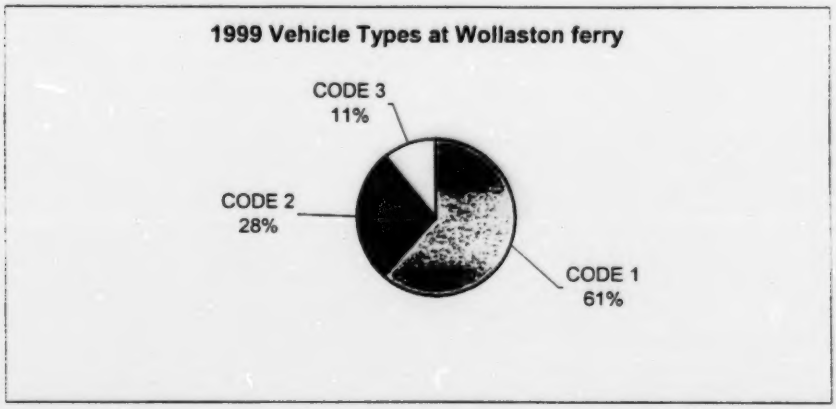
The monthly traffic record follows:

MONTH	*# OF TRIPS*	*CODE 1*	*CODE 2*	*CODE 3*	Monthly Total
June	26	33	16	3	52
July	60	88	47	14	149
August	59	117	36	13	166
September	56	79	47	25	151
October	18	25	7	6	38
Total	219	342	153	61	

Code 1 - Single Light Vehicle - any vehicle, car, truck(less then a 1 ton), motorcycle, etc.
Code 2 - Other - includes single vehicles with trailer, trucks over one ton, etc
Code 3 - Full - Any vehicle, trailer, construction equipment or combination there-of

The vehicle classification system used at Wollaston is different than is used by the rest of the ferry system.

Chart 6.1 A Vehicle Types using the Wollaston Barge Ferry



Not surprisingly the Wollaston ferry carries the highest percentage of commercial vehicles in the province at 39%. Other than by air this ferry is the only summer road access to Wollaston Lake. Passenger trips are also not very numerous because the community is small and the trip across the lake and down the road to the nearest community is long.

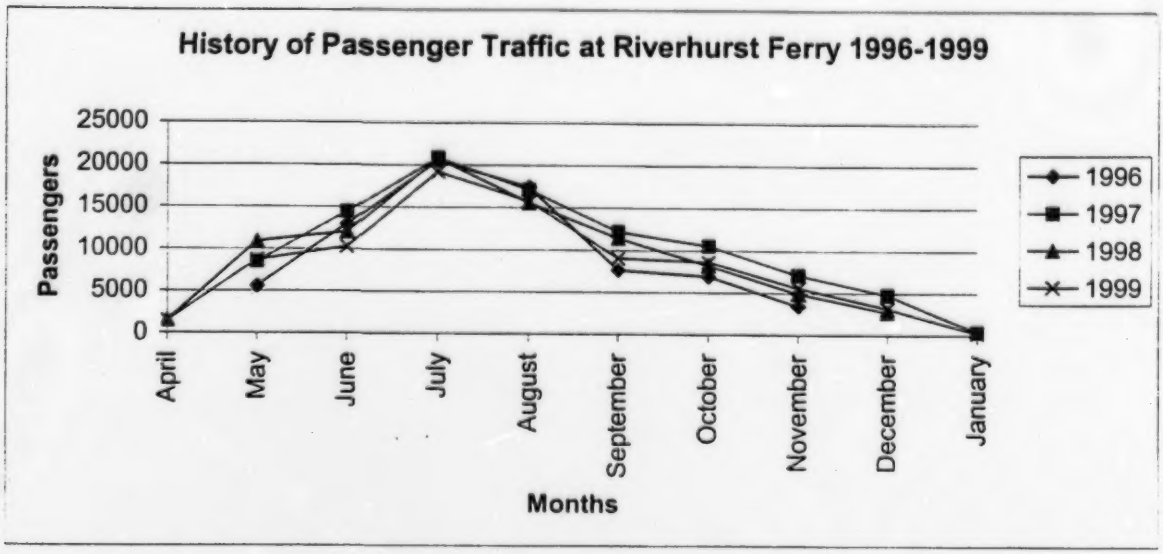
7.0 Passengers

Riverhurst is the only ferry in the province where the number of passengers is recorded . The number of passengers taking the Riverhurst ferry has fallen slightly since the peak in 1997.

Riverhurst Ferry											
Passengers	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Totals
1996		5539	12953	20471	17414	7631	6916	3431	CLOSED	CLOSED	74,355
1997		8437	14435	20828	17075	12162	10524	7093	4756	361	95,671
1998	1485	10882	12048	20767	15557	11427	8208	4895	2687	CLOSED	87,956
1999	1456	8660	10259	19183	15738	9039	8620	5576	3142	247	81,920

Table 3 – Passenger Traffic on the Riverhurst Ferry

Chart 7.1 History of Passenger Traffic at the Riverhurst Ferry 1996-1999



8.0 Conclusions

- In 1999 the ferry system was operating near the 10 year average traffic levels
- Overall the ferry system is well utilized. Year to year traffic fluctuations at individual ferries seem to be caused by differences in the length of the operational system, weather and economic activity.

8.1 Operating Season/Downtime

- As in previous years Riverhurst had the longest operating season, extending into January 2000.
- Mechanical problems at all the ferries were fixed within a reasonable amount of time.

8.2 Traffic Volumes

- The Clarkboro ferry carried a ten-year high volume in 1999.
- Traffic on Prince Albert area ferries appears to be increasing. Three of the five ferries carried more traffic in 1999 than in 1998. Weldon equaled the ten year high and St Laurent recorded an increase of 70% over 1998.
- Estuary and Lancer experienced their fourth consecutive, albeit modest, traffic volume increase in 1999.
- Traffic volumes at Riverhurst have returned to historical levels after peaking in 1997.

8.3 *Vehicle Classification*

- Cecil carried 10.7% heavy trucks, which is about twice as high as any other cable ferry location. Cecil carried a similar percentage in 1998, suggesting this ferry is on a minor haul route.

9.0 Recommendations

1) The department consider collecting passenger numbers at all the ferries in 2000.

2) The vehicle classification system used on the rest of the ferry system be extended to the Wollaston Ferry in 2000. A single classification system facilitates comparisons within the ferry system and compatible with the traffic data collected on roadways.

APPENDIX A

Riverhurst Ferry Traffic Data

Sheet No. _____

Date_____ Shift_____ Operators 1. _____ 2. _____

Departure Time	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other	Pass-engers	Comments	Engine R.P.M.	Weather Wind(Kmh)	Sky	Surface	Temp
Totals												

Statement Certified Correct

_____

Ferry operator

Regular crew Name (please print)	Casual crew called Name	Accept	Refuse

		Main Engine	Genset 1	Genset 2
Hourmeter	Start			
	Finish			
Engine oil pressure				
Engine Coolant temp.				
Torque Converter Temp.				
Torque Converter Pres.				
Engine oil added				
Engine Coolant added				
Torque Conv. oil added				
Transmission oil added				
Final drive oil added				

Hydraulic oil East Ramp_____ West Ramp_____

Remarks (Weather, Servicing, etc)

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing_____ File No._____ Month of_____ ,199___

Shift					
Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
Totals					

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details in "Comments" ie: dangerous goods, equipment type, product hauled etc.

Highways and Transportation

Ferry Locations 1999